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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------------------------------------------------------------------------|-------------|----------------------|------------------------------|------------------|
| 10/780,440 | 02/17/2004 | Sumio Kawai | OOCL-152 (6MHA-03S0555P1) | 6170 |
| 26479 | 7590 | 02/06/2008 | EXAMINER | |
| STRAUB & POKOTYLO 620 TINTON AVENUE BLDG. B, 2ND FLOOR TINTON FALLS, NJ 07724 | | | AGGARWAL, YOGESH K | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2622 | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------|------------------------------|--|
| Office Action Summary | Application No. 10/780,440 | Applicant(s) KAWAI ET AL. | |
| | Examiner Yogesh K. Aggarwal | Art Unit 2622 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,6,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6,9 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments with respect to claims 1, 2, 4, 6, 9 and 10 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 4, 6, 9 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawai (US PG-PUB # 20040012714).

[Claims 1 and 4]

Kawai teaches a photographing device provided with a dust removing mechanism comprising: a photographing optical system which forms an optical image of an object ([0025]; fig. 1, "2"); a photoelectric conversion element which converts the optical image into an electric signal ([0027], figure 1, "15"); an optical element arranged between the photographing optical system and the photoelectric conversion element in such a manner as to seal the photoelectric conversion element ([0029], figure 1, "17"); a piezoelectric element provided at a peripheral portion of the optical element ([0029], [0036]-[0039], figs. 1, 2a-b, "171" and "172"); a drive circuit which supplies a period drive signal to the piezoelectric element to vibrate the piezoelectric element, thereby vibrating the optical element ([0031], figure 3a shows a cyclic voltage); and a control

circuit which changes a frequency of the periodic drive signal to a plurality of frequencies close to two or more resonance frequencies different in order from each other, to thereby cause the optical element to be vibrated at the plurality of frequencies in turn (Paragraphs 36, 37, 42, 43, 45 and 48. Different vibrations are generated for example a vibration having a wavelength $1/3$ the wavelength of the previous vibration is used corresponding to different frequencies).

[Claim 9]

Kawai teaches a photographing device provided with a dust removing mechanism comprising: a photographing optical system which forms an optical image of an object ([0025]; fig. 1, "2"); a photoelectric conversion element which converts the optical image into an electric signal ([0027], figure 1, "15"); an optical element arranged between the photographing optical system and the photoelectric conversion element in such a manner as to seal the photoelectric conversion element ([0029], figure 1, "17"); a piezoelectric element provided at a peripheral portion of the optical element ([0029], [0036]-[0039], figs. 1, 2a-b, "171" and "172"); a drive circuit which supplies a period drive signal to the piezoelectric element to vibrate the piezoelectric element, thereby vibrating the optical element ([0031], figure 3a shows a cyclic voltage) a control circuit which causes the optical element to generate standing-wave vibration, and controls a frequency of the periodic drive signal to cause nodes of the standing-wave vibration to be successively shifted ([0048], figure 7).

[Claim 2]

It is noted that control circuit controls the frequency of the period drive signal vibrates to vibrate the optical element first at a frequency close to a low-order resonance frequency for a predetermined time and then at another frequency close to a high-order resonance frequency for

another predetermined time Paragraphs 36, 37, 42, 43, 45 and 48. different vibrations are generated for example a vibration having a wavelength $1/3$ the wavelength of the previous vibration is used corresponding to different frequencies, since wavelength is inversely proportional to frequency).

[Claim 6]

Paragraph 36 teaches that frequency of vibration depends upon vibration modes and a primary bending vibration is produced as shown in figure 3c having one node. It is noted that a wave having a wavelength $1/3$ (Paragraph 45) of this will have at least two nodes.

[Claim 10]

The camera photographing device according to claim 9, wherein the control circuit controls the periodic drive signal to cause the nodes of the standing-wave vibration to be shifted at predetermined intervals ([0048], fig. 7).

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K. Aggarwal whose telephone number is (571) 272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571)-272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

YKA
February 3, 2008



LIN YE
SUPERVISORY PATENT EXAMINER